

## **Varicella notification in immigrants: a brief report from Ferrara, Italy**

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### **Background and Aim of the work**

Varicella, a highly contagious yet generally benign infectious disease caused by Varicella zoster virus, is usually deemed to have a more aggressive course in adolescence and in adulthood. The infection gives permanent immunity in nearly all immunocompetent subjects but in 10-20% of cases the virus after decades can lead to herpes zoster, which may be the origin of severe pain [1]. Since 1995 there is a vaccine recommended for all children [2]. On these bases and in consideration of the recent occurrence of a mass migration in the Province of Ferrara [3], it was considered useful to conduct a survey of varicella cases' notifications in the immigrant population.

## **Materials and Methods**

The notifications of infectious disease between 2002 and 2006 were collected by the Local Healthcare Unit (LHU) of Ferrara, Italy, according to specifications of the National Health Service defined by the Decree of November 15, 1990 [4] that obliges to report any actual or suspected case to the LHU. The here presented data are related to the District of Ferrara, the most representative area of the reality of migration in the province [5]. From the database, the cases related to varicella were extrapolated. Then, for each case, data related to disease and biographical data were abstracted. Statistical analysis was performed using Microsoft Excel 2003 [6].

## **Results and discussion**

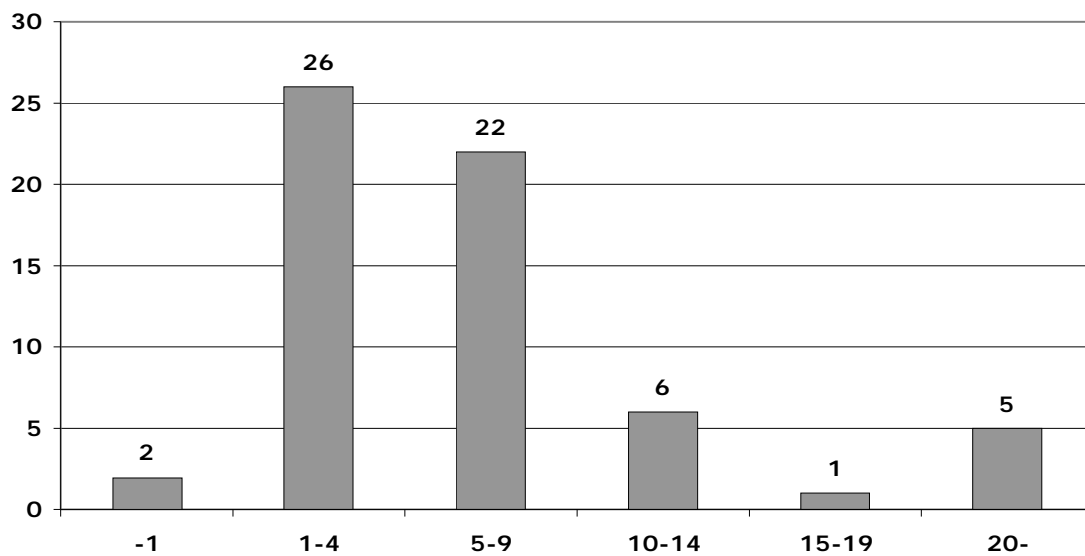
At the end of 2006, the 4.5% (14252 subjects) of total population of the province of Ferrara and its province was represented of immigrants from foreign countries: it is the confirmation of a trend of growth above the related mean of the Italian Emilia-Romagna region [7]. Most data seem to point out that those who decide to emigrate usually are in healthy status, a condition that leads to avoid preventive strategies. Moreover, although immigrants are used to access health services only in health-related emergencies [8], generally. There is a limited evidence of diffusive infectious diseases [9]. In this context, between 2002 and 2006, a total of 1969 cases of varicella, including 62 (3.1%) related to migrants, were reported. Among immigrants, regarding to gender, there were 36 cases in males (58.1%), and 26 in females (41.9%). The cases were notified in the 64.5% by the hospital emergency service, in the 16.1% by the paediatrician and in 19.4% by the general practitioner. An explanation could be the fact that this disease

generally has an acute onset in populations from areas where varicella is less known. The incidence of the disease in the Italian and immigrant people stratified by age is shown in Table 1. The total incidence among immigrants is shown in Figure 1. The incidence appears similar in both populations in childhood, differing from the Italian population because of a peak of incidence, which appears in adults for the most part in female subjects. This fact could mean an ever-closer integration in the local epidemiology for varicella of the immigrant school-children submitted to compulsory programmes for all residents.

Table 1: Notification of varicella divided by gender in the 2002-2006 period, in Ferrara  
and its province

	Italians Immigrants				Italians Immigrants				Italians Immigrants				Italians Immigrants			
	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f
	0-14 anni				15-24 anni				25-64 anni				oltre 64 anni			
2002	168	151	6		5	2			9	21						
2003	65	78	1	3		1			6	19			1			
2004	333	316	18	12	4	3	1		12	24						
2005	197	199	4	4	3	3			11	21		1				
2006	120	107	5	5	2	1			12	13		2				

Figure 1: Distribution of immigrants' cases divided by age classes in the 2002-2006  
period, in Ferrara and its province



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